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Shift work is already an integral part of modern society, and the number of shift workers is expected to increase. Shift work is associated with a range of adverse health impacts, including disruption of eating habits, fatigue, sleep deprivation and weight gain. However, few studies have examined the impact of shift work on dietary intake among Japanese men and women workers.

We investigated the association of night shift work with dietary intake and body mass index (BMI).

The study was conducted under a cross-sectional design using data from the Japan Multi-institutional Collaborative Cohort Study in the Okazaki area, conducted among residents who received health checkups from 2007 to 2011. The present study included 4,498 workers aged 35 to 79 years. Dietary intake was calculated using a self-administered food frequency questionnaire. The impact of night shift work on dietary intake and BMI was studied using multivariable linear regression analysis, which provided standardized regression coefficients and 95% confidence intervals for night shift workers.

In men, noodle intake adjusted for age, smoking, drinking, education, sleep satisfaction and BMI was significantly higher with night shift work than day work. In women, multiple-adjusted dietary intakes of potatoes, dairy products, green and yellow vegetables, other vegetables, fruits, and mushrooms were significantly lower with shift work than day work, but alcohol consumption was significantly higher. There were more food groups with differences in dietary intake between night shift workers and day shift workers for women than for men. For both sexes, BMI adjusted for multivariates other than BMI was significantly higher among night shift workers than day workers. Our findings suggest that night shift work has a significant impact on BMI and dietary intake, and that this impact is greater in women than men